



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/535,379

04/04/2006

James Edward Delves

DPS-030805 PET-1011US

7200

64065

7590

10/27/2009

CAMERON INTERNATIONAL CORPORATION

P.O. BOX 1212

HOUSTON, TX 77251-1212

EXAMINER

SNELTING, JONATHAN D

ART UNIT

PAPER NUMBER

3652

MAIL DATE

DELIVERY MODE

10/27/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/535,379	Applicant(s) DELVES ET AL.	
	Examiner Jonathan D. Snelting	Art Unit 3652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 14-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 14-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 27 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

3. Consider claim 27. While the disclosure is enabling for a method in which fluid may be added to transport solids from the closed vessel to the discharge vessel, the disclosure is not enabling for a method in which no fluid other than the fluid in the open vessel is used to transport solids from the closed vessel to the discharge vessel. The applicant discloses a lone method in which fluid from water tank 30 is used to transport solids from the closed vessel to the discharge vessel. It is possible that claim 27 contains a typo, but—as claim 27 is written—the examiner is unable to examine claim 27 in view of the prior art.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 3652

5. Claims 1-5, 19-21, 26, and 28-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Stinson (Patent No. 2,941,783).

6. Consider claim 1. Stinson teaches a suction line (17) from a closed vessel (16, 37) to an open vessel (well 4) via drive means (pump 18), a solids feed line (31), and a fluidising apparatus (rotary drill bit 6).

7. Consider claims 2-5. Stinson teaches a flow chamber (4), means for establishing a swirling or coanda flow (6), and a transport outlet (31) which is external to the flow chamber, situated directly above the flow chamber, and situated close to the flow chamber.

8. Consider claims 19-20. Stinson teaches drawing fluid from the closed vessel into the open vessel (via lines 17, 23, 24, 7) by means of a pump (18), operating a fluidising unit (rotary drill bit 6), and drawing fluid and fluidised solids from the open vessel into the closed vessel (via line 31).

9. Consider claim 21. Stinson teaches that fluid (drilling mud 14) is recirculated between the closed vessel (16, 37) and the open vessel (4). Stinson teaches valves 21, 38, 53, 54, 56, and 66 which can be closed so that no additional fluid is added to or removed from the system.

10. Consider claim 26. Stinson teaches valves 21, 38, 53, 54, 56, and 66 which can be closed so that no fluid other than the fluid in the open vessel is used to transport solids from the open vessel (4) to the closed vessel (16, 37).

11. Consider claims 28-31. Stinson teaches a method which is capable of operating below sea level to remove material for transport to shore, capable of removing material

Art Unit: 3652

from the seabed for dredging or mining, capable of removing radioactive waste solids, and capable of conveying material from the base of a mine shaft to the surface.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 6-10, 14-17, 22-25, and 32 rejected under 35 U.S.C. 103(a) as being unpatentable over Stinson (Patent No. 2,941,783) in view of Young et al. (Patent No. 5,098,667), hereafter referred to as Young.

14. Consider claims 6 and 7. Stinson teaches means (valve 22) for controlling the rate at which solids are transferred from the open vessel to the closed vessel, but Stinson's means does not comprise a flow meter. Young teaches using a flow meter (58, 56) in conjunction with a valve (78). It would have been obvious to a person having ordinary skill in the art to modify Stinson's valve with Young's flow meter in order to provide closed-loop feedback control to the valve.

15. Consider claim 8. Stinson teaches a closed vessel (16, 37), but Stinson's closed vessel does not comprise a feed vessel. Young teaches a feed vessel (40) which feeds solids into a transport vessel (20) containing a fluidising unit (stirrer 46). It would have been obvious to a person having ordinary skill in the art to modify Stinson's closed vessel with Young's feed vessel, transport vessel, and fluidising unit in order to convey the solids to a discharge vessel.

Art Unit: 3652

16. Consider claim 9. Stinson does not teach a transport vessel. Young teaches a transport vessel (20) with a solids outlet (60) through which solids are discharged at a controlled rate along a slurry discharge line (labeled "TO REACTOR" in fig. 1). It would have been obvious to a person having ordinary skill in the art to modify Stinson's closed vessel with Young's transport vessel, solids outlet, and slurry discharge line in order to convey the solids to a discharge vessel.

17. Consider claim 10. Stinson does not teach means for measuring the flow rate of slurry discharge. Young teaches means for measuring the flow rate of slurry discharge (58, 56). It would have been obvious to a person having ordinary skill in the art to modify Stinson's closed vessel with Young's means for measuring flow rate in order to provide closed-loop feedback control to a control valve.

18. Consider claims 14-17. Stinson teaches a valve (22) for controlling the flow rate of suspended solids from the open vessel (4) to the closed vessel (16), but does not explicitly teach valves for controlling the flow rate. It would have been obvious to a person having ordinary skill in the art to duplicate Stinson's valve, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis paper Co. v. Bemis Co.*, 193 USPQ 8.

Stinson does not explicitly teach means for controlling the flow rate based on the flow rate of solids from the transport vessel. Young teaches means (valve 16, computer 100, and flow meter 58, 56) for controlling the flow rate of suspended solids from an open vessel (10) to a closed vessel (40, 20) and means (valve 78, computer 100, and flow meter 58, 56) for controlling the flow rate of suspended solids from a transport

Art Unit: 3652

vessel (20) based on the flow rate of suspended solids from the transport vessel (20) to maintain the solids content at a constant level (see column 5, lines 28-37). Young's flow meter 58, 56, in conjunction with gamma density gauge 74 and computer 100, is a mass flow meter as described in column 2, lines 7-12. It would have been obvious to a person having ordinary skill in the art to modify Stinson's apparatus with Young's means of controlling flow rate in order to accurately convey a predetermined quantity of solids to a discharge vessel.

19. Consider claims 22-24. Stinson does not teach controlling the rate of discharge of solids from a closed vessel. Young teaches controlling the rate of discharge of solids from a closed vessel (20) to a discharge vessel (labeled "TO REACTOR" in fig. 1) via a valve (78) so that a desired concentration of solids is discharged at a constant rate (see column 5, lines 28-37). It would have been obvious to a person having ordinary skill in the art to modify Stinson's method with Young's step of controlling the rate of discharge of solids in order to accurately convey a predetermined quantity of solids to a discharge vessel.

20. Consider claim 25. Stinson does not teach fluidising the solids in the discharge vessel. Young teaches fluidising the solids in the discharge vessel (via stirrer 46). It would have been obvious to a person having ordinary skill in the art to modify Stinson's method with Young's step of fluidising the solids in the discharge vessel in order to convey the solids to a discharge vessel.

21. Consider claim 32. Stinson does not teach a method which is capable of conveying material directly into the suction line of a slurry pump. Stinson in view of

Art Unit: 3652

Young teaches a method capable of conveying material directly into the suction line of a slurry pump at concentrations matched to the pump's characteristics (see column 5, lines 28-37). It would have been obvious to a person having ordinary skill in the art to modify Stinson's method with Young's capability of conveying directly into the suction line of a slurry pump in order to convey the solids to a discharge vessel at a higher elevation.

22. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stinson (Patent No. 2,941,783) in view of Young (Patent No. 5,098,667) as applied to claim 17 above, and further in view of Gomi et al. (Patent No. 5,796,012), hereafter referred to as Gomi.

23. Consider claim 18. Stinson in view of Young teaches a flow meter, but does not explicitly state whether the flow meter is a coriolis or ultrasonic meter. Gomi teaches a coriolis flow meter. It would have been obvious to a person having ordinary skill in the art to modify the flow meter of Stinson in view of Young with Gomi's coriolis flow meter in order to correct instrumental errors caused by a change in density and temperature of the fluid (see Gomi, abstract, lines 1-3).

Allowable Subject Matter

24. Claims 11 and 12 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

25. Applicant's arguments filed 7/6/2009 have been fully considered but they are not persuasive.

26. Regarding the 35 U.S.C. 112, first paragraph rejection of claims 21 and 26, applicant argues that one skilled in the art would know to close the appropriate valves in order to isolate the open vessel and the closed vessel from the remainder of the system. Examiner agrees and withdraws the 35 U.S.C. 112, first paragraph rejection of claims 21 and 26.

27. Regarding the 35 U.S.C. 112, first paragraph rejection of claim 27, applicant argues that one skilled in the art would recognize how to perform the method as claimed. This argument is not persuasive. On page 17 of the Remarks, applicant states that "transporting solids from open vessel 2 to closed vessel 8 need not involve water from water tank 30." The applicant appears to be arguing limitations in claims 21 and 26, not in claim 27 which states "from the closed vessel to the discharge vessel." Furthermore, applicant states on page 17 of the Remarks that "fresh water from tank 30 is only needed for transporting solids from closed vessel 8." In claim 27, applicant claims "no fluid other than the fluid in the open vessel is used to transport solids from the closed vessel to the discharge vessel." These two statements seem to contradict each other.

28. Applicant argues that Stinson does not teach a closed vessel. This argument is not persuasive. The word "closed" is defined as "having boundaries" (see attached Non-Patent Literature documents). Absent a frame of reference for the term "closed" in

Art Unit: 3652

the applicant's claim, Stinson teaches a closed vessel as broadly claimed by the applicant.

29. Applicant argues that Stinson's closed vessel does not have a top surface or lid. This argument is not persuasive. The applicant is arguing limitations not found in the claims.

30. Regarding the rejections under 35 U.S.C. 103(a), applicant argues that the examiner has not established a prima facie case of obviousness. This argument is not persuasive. In the First Office Action, the examiner addressed the claim limitations using the factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a):

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

31. Applicant argues that Young does not teach a feed vessel. This argument is not persuasive. The word "vessel" is defined as "a hollow or concave utensil" (see attached Non-Patent Literature documents). Young teaches a feed vessel as broadly claimed by the applicant.

32. Applicant argues that the pumps in the instant application pump water only, and Young's pumps pump slurry. This argument is not persuasive. The applicant is arguing limitations not found in the claims.

Art Unit: 3652

33. Applicant argues that Young's stirrers are not analogous to applicant's flow chambers. This argument is not persuasive. The examiner has not relied upon Young's stirrers for a teaching of applicant's flow chambers.

Conclusion

34. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan D. Snelting whose telephone number is 571-270-7015. The examiner can normally be reached on Monday to Friday 8:00 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saul Rodriguez can be reached on 571-272-7097. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3652

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Saúl J. Rodríguez/
Supervisory Patent Examiner, Art
Unit 3652

/Jonathan D Snelting/
Examiner, Art Unit 3652